

Vibratory Double-Axially Sensing Micro-Gyroscope

Abstract

5 The invention is to provide a vibratory double-axially sensing micro-gyroscope, which includes a base, on center of which a supporting hub is arranged, and plural suspending arms are extended outwardly with equal altitude and in radial direction from the supporting hub and, at the outside end of the suspending arm, a platform is formed, and a capacitance 10 sensing electrode or a static-electricity driving electrode is plated respectively at each side of the platform top, below which a static-electricity driving electrode or a capacitance sensing electrode is arranged; take a preferred embodiment of the present invention for example, if the capacitance sensing electrode is arranged at top of the platform and the 15 static-electricity driving electrode is arranged below the platform, then the suspending arm and the platform will vibrate vertically by the attraction of the static-electricity when applying driving voltage, and the vibratory phase difference between two adjacent suspending arms and the platform is 180 degrees; when the gyroscope is rotated horizontally, the suspending arm and 20 the platform will generate horizontal displacement caused by Coriolis force and, by measuring the change of capacitance value, the magnitude of the angular velocity of vibration is obtained; since its structure has symmetrical property, so it has sensing ability in both X or Y axes and, because it has superior stability and is able to resist environment noise and vibration, its 25 sensing capability is enhanced and, since its machining method is simple, so it is adapted for mass production for having lower manufacturing cost.